



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

09/362,020

07/27/1999

ROBERT J. MEYER

D/96602Q2

6310

7590

06/04/2004

JOHN E BECK
XEROX CORPORATION
XEROX SQUARE 20A
ROCHESTER, NY 14644

EXAMINER

LAMB, TWYLER MARIE

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/362,020

Applicant(s)

MEYER ET AL.

Examiner

Twyler M. Lamb

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 16.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2622

DETAILED ACTION

Notice to Applicant(s)

1. This action is responsive to the following communications: Preliminary Amendment filed on 3/12/04.
2. This application has been reconsidered. Claims 1, 4-20 are pending.

Claim Rejections - 35 U.S.C. 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 8, 9, 13-15 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eki et al. (Eki) (US 5,706,046) in view of Chung et al. (Chung) (US 5,835,123).

With regard to claim 1, Eki discloses an improved electronically stored font (col 7, line 56 – col 8, line 3) for use in an electrostatographic machine, comprising: a font representation (According to page 12, lines 7-13, the font representation is defined as a collection of capital and lower case letters, numeric and special characters of one particular type face and style to be utilized in electronic displays and printers, which

Art Unit: 2622

reads on image data suitable for use in a digital printer, copier or facsimile which represent text or line art) (col 7, line 56 – col 8, line 3)

Eki differs from claim 1 in that he does not clearly teach a non-printing black auxiliary pixel embedded in the font representation exterior to the font image shape to improve the development of font detail or solve leading edge deletion in printing of the font.

Chung discloses a method for compensation for pixel aberrations by selecting pixels to be augmented and providing additional optical energy to the selected pixels that includes a non-printing black auxiliary pixel embedded in the font representation exterior to the font image shape to improve the development of font detail or solve leading edge deletion in printing of the font (col 7, lines 9-20).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki to include a non-printing auxiliary pixel embedded in the font representation to improve the printing of the font as taught by Chung. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki by the teaching of Chung for compensation for pixel aberrations by selecting pixels to be augmented and providing additional optical energy to the selected pixels as taught by Chung in the Abstract and col 7, lines 9-20.

With regard to claim 4, Eki also discloses wherein the font representation is a bit map type (col 7, line 56 – col 8, line 3).

With regard to claim 8, Eki discloses a method for improving a text image (which reads on removing jaggedness in an outline section of characters, graphics, etc.

Art Unit: 2622

(dejagging)) (col 2, lines 29-38; col 7, line 56 – col 8, line 3), comprising receiving (which reads on print data signal being inputted from the host computer) (col 6, lines 32-35, col 6, lines 38-39) text data (which reads on characters) (col 2, lines 29-38); and processing the text data with a font representation (According to page 12, lines 7-13, the font representation is defined as a collection of capital and lower case letters, numeric and special characters of one particular type face and style to be utilized in electronic displays and printers, which reads on image data suitable for use in a digital printer, copier or facsimile which represent text or line art) (col 7, line 56 – col 8, line 3).

Eki differs from claim 8 in that he does not clearly teach a non-printing black auxiliary pixel arranged by the font representation so as to be exterior to the font image shape so as to improve the development of font areas of detail or solve leading edge deletion in the printing of the font.

Chung discloses a method for compensation for pixel aberrations by selecting pixels to be augmented and providing additional optical energy to the selected pixels that includes a non-printing black auxiliary pixel embedded in the font representation exterior to the font image shape to improve the development of font detail or solve leading edge deletion in printing of the font (col 7, lines 9-20).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki to include a non-printing auxiliary pixel embedded in the font representation to improve the printing of the font as taught by Chung. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki by the teaching of Chung for compensation for pixel aberrations by

Art Unit: 2622

selecting pixels to be augmented and providing additional optical energy to the selected pixels as taught by Chung in the Abstract and col 7, lines 9-20.

With regard to claims 9 and 15, Eki also discloses wherein the step of processing includes using a font representation of a bit map type (col 7, line 56 – col 8, line 3).

With regard to claim 13, Eki discloses in a digital imaging system (Figure 2, color laser beam printer including printer controller 4 coupled to the image processor 5 which is connected to host computer 6), a method for optimizing a rendition of a text image (which reads on removing jaggedness in an outline section of characters, graphics, etc. (dejagging)) (col 2, lines 29-38; col 7, line 56 – col 8, line 3), comprising: receiving text data (which reads on print data signal being inputted from the host computer) (col 6, lines 32-35, col 6, lines 38-39) text data (which reads on characters) (col 2, lines 29-38); and processing the text data with a font representation (According to page 12, lines 7-13, the font representation is defined as a collection of capital and lower case letters, numeric and special characters of one particular type face and style to be utilized in electronic displays and printers, which reads on image data suitable for use in a digital printer, copier or facsimile which represent text or line art) (col 7, line 56 – col 8, line 3).

Eki differs from claim 13 in that he does not clearly teach a non-printing black auxiliary pixel arranged by the font representation so as to be exterior to the font image shape so as to improve the development of font areas of detail or solve leading edge deletion in the printing of the font.

Chung discloses a method for compensation for pixel aberrations by selecting pixels to be augmented and providing additional optical energy to the selected pixels

Art Unit: 2622

that includes a non-printing black auxiliary pixel embedded in the font representation exterior to the font image shape to improve the development of font detail or solve leading edge deletion in printing of the font (col 7, lines 9-20).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki to include a non-printing auxiliary pixel embedded in the font representation to improve the printing of the font as taught by Chung. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki by the teaching of Chung for compensation for pixel aberrations by selecting pixels to be augmented and providing additional optical energy to the selected pixels as taught by Chung in the Abstract and col 7, lines 9-20.

With regard to claim 14, Eki also includes wherein the step of processing comprises generating image text using a processing system including a digital front end (which reads on host computer outputting print data signal) (Figure 2, color laser beam printer including printer controller 4 coupled to the image processor 5 which is connected to host computer 6) (col 6, lines 32-35).

With regard to claim 19, Eki also includes wherein the bit map representation has auxiliary pixels as previously stored therein (col 6, lines 45-54; col 15, lines 19-26).

With regard to claim 20, Eki also includes wherein the bit map representation has auxiliary pixels inserted therein by a method comprising: stepping a $n \times n$ window across each pixel location in the bit map (which reads on discriminating with a m -numbered line in an n -numbered row) (col 8, line 45 – col 10, line 17); counting the number of "on" pixels in the window (which reads on showing the dot pattern including

Art Unit: 2622

the dots to be printed) (col 9, lines 11-46); and comparing the number against a set threshold number to determine if the location is in an area of font detail (which reads on during the discrimination process ensuring the printing dots receive modulation) (col 9, line 36 –col 10, line 17).

5. Claims 5-7, 10-12 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eki et al. (Eki) (US 5,706,046) in view of Chung et al. (Chung) (US 5,835,123) as applied to claim 1 above and further in view of Zack et al. (Zack) (US 5,459,828).

With regard to claim 5, Eki differs from claim 5 in that he does not clearly teach wherein the font representation is a contour type.

Zack discloses a method of producing a raster font that teaches wherein the font representation is a contour type (Figure 1, contour font 10, col 3, lines 3-7).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki to include wherein the font representation is a contour type as taught by Zack. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki by the teaching of Zack to convert contour fonts to bitmap fonts with automatic thickening and thinning to produce a raster font as taught by Zack in col 2, lines 38-55.

With regard to claim 6, Eki differs from claim 6 in that he does not clearly teach wherein the font representation is a spline-knot type.

Art Unit: 2622

Zack discloses a method of producing a raster font that teaches wherein the font representation is a spline-knot type (According to page 12, lines 19-20, contours may be represented by spline knots and stored on disk to be rasterized later, which reads on a contour font being analyzed and altered to produce a raster font) (Figure 1, contour font 10, col 3, lines 3-7; col 2, lines 38-55).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Eki to include wherein the font representation is a spline-knot type as taught by Zack. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki by the teaching of Zack to convert contour fonts to bitmap fonts with automatic thickening and thinning to produce a raster font as taught by Zack in col 2, lines 38-55.

With regard to claim 7, Eki differs from claim 7 in that he does not clearly teach wherein the font representation is a bit meta type.

Zack discloses a method of producing a raster font that teaches wherein the font representation is a meta type (According to page 12, lines 22-26, meta type font representation contains no art work master to start with and spline functions are used instead to form the median or skeleton of the desired font map, which reads on a hint which defines the parameters defining the font) (Figure 12, hint generation step 20, col 3, lines 6-58).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Eki to include wherein the font representation is a meta type as taught by Zack. It would have been obvious to one of

Art Unit: 2622

ordinary skill in the art at the time the invention was made to have modified Eki by the teaching of Zack to simplify the type of information necessary to produce a raster font as taught by Zack in col 3, lines 54-58.

With regard to claims 10 and 16, Eki differs from claims 10 and 16 in that he does not clearly teach wherein the step of processing includes using a font representation of a contour type.

Zack discloses a method of producing a raster font that teaches wherein the font representation is a contour type (Figure 1, contour font 10, col 3, lines 3-7).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki to include wherein the font representation is a contour type as taught by Zack. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki by the teaching of Zack to convert contour fonts to bitmap fonts with automatic thickening and thinning to produce a raster font as taught by Zack in col 2, lines 38-55.

With regard to claims 11 and 17, Eki differs from claims 11 and 17 in that he does not clearly teach wherein the step of processing includes using a font representation of a spline-knot type.

Zack discloses a method of producing a raster font that teaches wherein the font representation is a spline-knot type (According to page 12, lines 19-20, contours may be represented by spline knots and stored on disk to be rasterized later, which reads on a contour font being analyzed and altered to produce a raster font) (Figure 1, contour font 10, col 3, lines 3-7; col 2, lines 38-55).

Art Unit: 2622

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki to include wherein the font representation is a spline-knot type as taught by Zack. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki by the teaching of Zack to convert contour fonts to bitmap fonts with automatic thickening and thinning to produce a raster font as taught by Zack in col 2, lines 38-55.

With regard to claims 12 and 18, Eki differs from claims 12 and 18 in that he does not clearly teach wherein the step of processing includes using a font representation of a bit meta type.

Zack discloses a method of producing a raster font that teaches wherein the font representation is a meta type (According to page 12, lines 22-26, meta type font representation contains no art work master to start with and spline functions are used instead to form the median or skeleton of the desired font map, which reads on a hint which defines the parameters defining the font) (Figure 12, hint generation step 20, col 3, lines 6-58).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki to include wherein the font representation is a meta type as taught by Zack. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Eki by the teaching of Zack to simplify the type of information necessary to produce a raster font as taught by Zack in col 3, lines 54-58.

Response to Arguments

Art Unit: 2622

6. Applicant's arguments, see Preliminary Amendment, page 8, line 9 – page 9, line 5, filed 3/12/04, with respect to the rejection(s) of claim(s) 1-20 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Chung et al. (Chung) (US 5,835,123).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Twyler Lamb whose telephone number is 703 - 308-8823. The examiner can normally be reached on M-TH (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L Coles can be reached on 703-308-4712. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9314 for After Final communications.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

or faxed to:

(703) 872-9314

(for informal or draft communications, such as proposed amendments to be discussed at an interview; please label such communications "PROPOSED" or "DRAFT")

or hand-carried to:

Crystal Park Two

2121 Crystal Drive

Arlington, VA.


Application/Control Number: 09/362,020

Page 12

Art Unit: 2622

Sixth Floor (Receptionist)

Twyler Lamb

A handwritten signature in black ink, appearing to be 'Twyler Lamb', written in a cursive style.

June 1, 2004